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From	:	Paul Van Tichelen	Annex(es):	Powerpoint presentations of the meeting (https://ecodesignbatteries.eu/documents)
To	:	Cesar Santos; Stakeholders		
Copy	:	Project team		

Minutes of stakeholder Meeting for Ecodesign Preparatory Study on Industrial Rechargeable Electrochemical Batteries – Third Stakeholder Meeting on 05/11/2019

Vleva, Liaison agency Flanders-Europe, Kortenberglaan 71, 1000 Brussels

Note: updated version on 25/11 after receiving late feedback from Euric

Participants

European Commission

DG GROW	Cesar Santos (CS)
DG GROW	Michele Galatola (MGa)

Project Team

ISI Fraunhofer	Antoine Durand (AD)
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Viegand Maagøe	Mette Rames Ravn (MR)
VITO	Paul Van Tichelen (PVT)
VITO	Grietus Mulder (GM)
VITO	Neethi Rajagopalan (NP)

Stakeholders

Organisation	Acronym
ACEA	ACEA - JW
ACEA	ACEA – SV
ACEM	ACEM - TV
APPLiA	APPLiA - GZ
AVERE	AVERE - JD
Belgian Ministry of Environment	BME - BS
Blue Solutions	Blue Solutions - DC

Organisation	Acronym
Danish Energy Agency	Danish Energy Agency - JeD
Detomserve	Detomserve - WT
DKE	DKE - UJ
ECOS	ECOS - MZ
EASE – European Association for Storage of Energy	EASE - BE
EGMF	EGMF - MG
EPPA	EPPA - CD
Eramet	Eramet - MG
Eramet	Eramet - SD
Eurobat	Eurobat - EM
European Commission DG Environment	DG environment – JR
European Commission / JRC	JRC - LZ
European Environmental Bureau	EEB - PB
European Environmental Citizens Organisation for Standardisation	ECOS - MZ
European Recycling Industries' Confederation (EuRIC)	EuRIC - LO
Federal Institute for Material Research and Testing (DE)	BAM - ASi
Forsee Power	Forsee Power - ST
German Environment Agency	GEA - GTE
Honda Motor Europe	Honda Motor Europe - BLP
iFixit	iFixit - MD
InnoEnergy	InnoEnergy - BL
InnoEnergy	InnoEnergy - IVD
Instituto Technologico de la Energia (ITE)	ITE - JCL
JRC-EC	JRC-EC - AV
JRC-EC	JRC-EC - DB
Karlsruhe Institute of Technology	KIT - JK
LEVA	LevaDJ
LG Chem Europe GmbH	LG CE - JJ
LG Electronics	LG Electronics - RB
Netherlands Enterprise Agency	NEA - HPS
Nissan	Nissan - PB
Northvolt	Northvolt - EW
Orgalim	Orgalim - IJ
RECHARGE aisbl	Recharge - PAL
Revolta	Revolta - XB
SAFT	SAFT - PdM

Organisation	Acronym
Solarwatt, BVES	Solarwatt, BVES - TT
Sonnen GmbH	Sonnen - FD
Swedish Energy Agency	SEA - EL
Tesla	Tesla-JD
Toyota	Toyota-PH
Transport & Environment	Transport & Environment - LM
Umicore	Umicore – JT
Vanderlande Industries	VI - CG
Volta	Volta - GV
VUB	VUB - MB

Objective of the meeting

The intention of the meeting was to serve as a third stakeholder meeting for the Ecodesign preparatory study on Batteries. This extra stakeholder meeting was arranged in order to include discussion on the top-up study work packages 1-4. Discussion notes for WP 1-4 were publicly available before the meeting on the project website (https://ecodesignbatteries.eu/documents). The purpose of this meeting was to present the key comments, to discuss the initial findings, and to the hear the views of the stakeholders on the findings so far. Stakeholders were invited to provide written comments. The deadline for written comments for all work packages is 19/11/2019.

Note: complementary to these minutes, the meeting PowerPoint presentation can be consulted

Agenda

10h00-10h05: Welcome and introduction to study (DG GROW)
10h05-10h20: Tour de table +agenda & complementary study scope(VITO)
10h20-10h50 Task 7 proposed policy options (in the original study) (VITO)
10h50-11h10: Discussion on the proposed policy (VITO/EC)
11h10-11h20: Coffee Break
11h20-11h40: Alternative technology neutral policy options (WP2), Q&A (VITO/EC)
11h40-12h00: PEF CR, what does it entails for batteries, Q&A (DG GROW)
12h00-12h20: Example applying the PEF CR to a sodium battery for ESS, Q&A(WP3)(Vito)
12h20-13h30: Lunch Break
13h30-14h30: Potential policy for sustainable sourcing (WP4), Q&A(WP 3)
14h30-14h45: Coffee break
14h45-15h45: Potential scope extension to light mobility applications (WP1), Q&A(ISI)
15h45-16h00: AOB, conclusion and next steps (VITO/DG GROW)

Minutes

10h00 Welcome and introduction to the study

Cesar Santos (CS), commission official in charge of this ecodesign study on batteries, welcomes the participants and explains the political context and process for this study.

Half way through preparatory study, it became clear that Ecodesign framework directive could not be used for the political measures the commission wanted to pursue, therefore the first “ecodesign study” was topped up by this further study to investigate in more detail CO_2 footprint and responsible sourcing, which fall outside Ecodesign. The Commission also took the chance to look into more technological neutral requirements for other battery chemistries, as well as light mobility application batteries.

This is a classic stakeholder meeting, and not a political discussions, so it is about the study findings, data gaps etc.

Political context:
Little visibility about when/how new commission will package new regulatory proposals. Also needs to be coherent with the revision of the battery directive. Can be fully integrated, made coherent, or adopted together in one package. It is a discussion that the new commission will take a decision for.

10h05 Agenda task structure
The tour the table.

Paul Van Tichelen (PVT):
- Presentation of the study team (see PowerPoint)
- In addition to the given feedback during this meeting, comments can also be send in to the following email address: edbatteries@vito.be.
- All the documents we are discussing today are on the project website (https://ecodesignbatteries.eu/documents).
- Also a website on the Commission website on the political process. https://ec.europa.eu/info/law/better-regulation/initiatives/ares-2018-5951053_en
- Stakeholders have time to comment the discussion notes until 19th of November

10h20 Task 7 proposed policy options (in the original study)
Grietus Mulder (GM) presented the policy options (see PowerPoint).

Proposals for:
1. Minimum lifetime → capacity, internal resistance, round-trip efficiency (RTE) – measured at mid-life according to the estimation of the application system. All are needed. Warranty requirements at half-life different than the minimum requirements because warranty must be less strict than the test conditions to allow variation in the product. Only standards for trucks are missing.
2. Requirements for BMS → open data on SOH, statistics, general info. Firmware updates.
3. Information requirements about batteries and cells → to allow for repair, reuse, remanufacturing etc. About testing results and info necessary for the BMS. QR or similar with link to European database.
4. Requirements on traceability of modules and packs → individual serial numbers for modules and packs. Database of ethical mining.
5. Carbon footprint information and possibly a threshold → specific requirements or info requirements on carbon footprint. Linked to WP3.
6. Minimum design and construction requirements → Make it easier to reuse and repair batteries. Dismantling information, R-R-R-R index,

10h50 Discussion on the proposed policy

Acronym	Comment/answer
CS	Commission and services have left a lot of freedom to consultants to suggest policy options, but it does not mean that all of these will become part of the final policy formulation. This is only the start of the discussion, and later other services and member states will be involved. We are still canvassing for ideas.
PVT	The list can be expanded and the Task 7 report did not include all the ideas that were on our initial short-list.

GM	The items in the proposal form a coherent, intertwined entity.
SAFT - PdM	Open q: context of the six points apply to batteries, but why to evs and ess, other mobility? T is a different discussion if this is focused on cars, or on ESS? Or why the other taken into account now?
PVT	The original idea was to look at cars, but it was expanded over time due to inputs from stakeholders, mainly on request of NGOs. We also included ESS because it is also seen as a second life of EV batteries. Today many other applications will be included in the discussion, even though we agree that both ESS and especially light mobility have very different uses and therefore different requirements. ESS and EVs were also chosen due to large market shares (in terms of GWh). ESS was also considered because this fits better with the scope of the Ecodesign Regulation.
Danish Energy Agency - JeD	The idea of a warranty is a good idea that covers a longer lifetime and already see warranties provided by EV manufacturers. Question is, why have a warranty on minimum capacity, instead of what is already in the market, which is a number km? this is what people are used to and what manufacturers already offer. Why would capacity be better to regulate?
GM	This is also based on a number of years. The reason is that we look from a battery perspective, and here 100 km is not the same for all batteries and cars.
PVT	Also, you cannot easy drive test for disputing a warranty claim based on a WLTP driving range without going to a very expensive test on a certified rolling road or dynamometer test bench You can however more easy test the specified battery parameters directly when connected to a laboratory or workshop battery tester. This is how the new policy proposal is elaborated based on battery parameters according to standards that can easily be verified and tested, even in a workshop later on. .
Tesla-JD	For any OEM battery is not the end, means to an end. What is important is how long they can drive the vehicle. There is a simple connection between kWh capacity and driving range given as the WLTP efficiency.
PVT	The relation in real life is not that simple and because under real road conditions the range will depend on driving conditions, weather, etc.
GM	The real issue is you should be able to measure the capacity compared to the towards the initial capacity. Therefore the proposal is made in this way.
Danish Energy Agency - JeD	The idea was not the requirement about the capacity that was the question, but rather the limit for the warranty, should that be measured in year/cycles or in km, which is easier for consumers to understand.
PVT	Also, there are several requirements proposed for batteries and years of calendar life is not seen as a substitute for mileage, up to GM to complete..
GM	Yes these are two issues: the moment of warranty expressed in year or in energy throughput besides the measurement that should be done to proof the warranty threshold. If a link is made between kWh throughput and km as seems possible by the WLTP efficiency then this can be an acceptable criterion for the warranty moment.
LG CE - JJ	Why different length of warranties, and why ESS not differentiated more, Some are used more than others, e.g. for photovoltaic and for grid etc.
GM	This was considered in the study, there is not only one type of ESS but base cases for different ESS systems. It is based on the EOL criteria for each (i.e. residential storage and commercial storage).
PVT	To clarify, the ESS market is currently not harmonised within the EU or even for a region within one single country within the EU; this means that there are currently many different ESS use cases with all different load cycles, solar production patterns, etc. For example a

	region in one country can require a peak shaving for a battery inverter at 60 % of power during a certain period (11h-15h) while another region will support self-consumption per time period of 15 minutes, etc. . All these different ESS use cases will have different lifetimes, performance parameters, etc. This will limit the possibilities to regulate this at the European level taking the subsidiarity principle into account, meaning that it can be better implemented in regulation at regional level instead of EU wide. For example, so far this missing harmonized use case also complicated to convert elaborate smart appliance product requirements.
Sonnen - FD	Would like to challenge the conclusion regarding battery management system, and that open system will not entail additional product cost. However, if the data form the BMS is used for making decision, 2nd life etc., there needs to be a high level of trust in the data in the BMS. That means the data should be (in legal terms) official. Hence official meters, that needs to be developed and used, to have trustworthy data, which will be more costly than the meters used today by battery manufacturers. Q1: Did you take it into account? Q2: if you have to boil it down to 2-3 datapoints, which should be open?
GM	Yes, we did take it into account. The idea is to be able to measure the SOH of the battery. The statistical data give some insight in the history of the battery, which cannot be translated into SOH exactly. Ageing is path dependent. Metered data for the statistics does not let you know the lifetime of the battery better. So no need to have these meters. For that test methods are used as alternative and better way. BMS is just trying to derive what is the remaining capacity.
PVT	The list of data needed by the BMS elaborated within the study team was originally longer, so this is already a simplified list, so we would rather see someone saying there is not enough on the list, rather than too much. But it can be further discussed.
Solarwatt, BVES - TT	When writing standards, we need to define the performance principle, e.g. the goal of the standards. There is a simpler solution, where range is measured for EV instead of remaining capacity. It is more valuable to the user. If there is a requirement, that the system shall show at any time the remaining range of driving, or requirement on remaining capacity in battery (as for fossil motors). If a BMS can calculate the SOH and roughly the capacity, but cars have to do it anyway, so they already have this information, but I don't need to put the BMS data on the database.
GM	This is not the idea, to put all the data on a database, but to give information about that is needed as background of understanding the statistical data in the BMS, such as the position of modules in the battery pack.
Solarwatt, BVES - TT	Mainly referring to the warranty. You don't need an external requirement, as vehicles already show this.
GM	This has been discussed before. Knowing the capacity at one moment is insufficient, but a history of the battery to foresee the capacity for a second life, for example.
PVT	Also, this requirement is for the battery because this is the scope of our study and not for the car which is a different scope.
Tesla-JD	It is not the kWh of the battery that is important, but the kWh needed for that specific car. It is easy to state the SOH on the screen of the car, but you cannot look at vehicle batteries alone, as it is implemented in a system. Difficult to accept regulation on kWh, it must be on range or carbon footprint.
Eurobat-EM	ESS. As ESS is now in the scope it is imprecise. So it is about different technologies. Energy storage today, what is exactly the application. Totally different applications, so what is the environmental gain, if you put a battery that lasts 12 years into an application that lasts 2 years.
PVT	We discuss the extension of scope in a later.

Blue Solutions - DC	At which level is CO_2 footprint measured? Cell, pack module? Also did you have in mind the EOL vehicle directive? Why are busses not discussed? For example, Bus-to-grid applications. So why are they not included in the requirement?
GM	Concerning the busses, that is a market issue from the market scenarios. From the market scenario it was a much smaller battery volume than electric trucks.
Blue Solutions - DC	There are many busses at the market, but no trucks
Fraunhofer - AD	But we are looking at the future market, so based on forecasts of markets.
Blue Solutions - DC	If it is only for batteries first put on the market, or also for batteries that are repurposed?
GM	Normally remanufactured batteries are to be seen as a new battery. So apply to them as well. If you make a repurposed battery, it should follow the same requirements for safety, environmental or other regulations.
PVT	This is a question in many markets for repurposed products that have a received a CE label and should be figured out by the Commission how this would apply.
BME - BS	1- Many types of batteries, so nice to know which batteries go in which type of new regulation. G.g. ev not in ecodesign. So nice to know from commission side if there are any possibilities form battery perspective and tech. neutral approach, how to do this in practice? Will it be in different regulations or in one? 2- What is important is performance and efficiency in use phase, but many materials are energy intensive to get, so lifetime requirements, recycled content etc. 3- Minimum lifetime requirements and warranties are two different things. Requirements are to be tested and checked by MSAs, warranties are not. 4- For BMS, an energy management system / smart grid is important, so that should be part of any large battery 5- On CO2 footprint: there are also other legislation on CO2 for cars, so there should be some harmonisation to be done 6- If you can have information ON the battery, why do you need a database?
PVT	Much of this is discussed and answered in the notes send out. Regarding database, more information are in the database, and it is available at different levels, e.g. how it is repaired, reused etc. this information are not on the battery. This information is already used in automobile databases.
Northvolt - EW	As battery manuf. CO2 footprint is good opportunity to put CO2 info on the battery itself, But we would also like to see this put on the cells. Is this considered?
PVT	Yes, but only for cells for this kind of applications, so if you use it for another application, you would not need this information, Therefore, we propose for only those in scope of the study
PVT	The study is concluded, and will in principle not be republished.
Toyota-PH	Same discussion about battery durability and SoH is held on UN working group on EVE. In October there have been several proposals from JPN, EU and Automotive Industry that go away from doing component tests, but focus more on declaration and in-use tests. Those proposals should be considered here as well.
ECOS - MZ	Battery manuf. Is energy and resource intensive and are very positive of the options proposed. Will also provide written comments
CS	Discussion within GROW is whether these durability requirements are compatible with the in-vehicle requirements, or if overkill to have both. There are different ways to measure the same things. The requirement on range, does not tell you much about sustainability of the battery itself, as you can change the battery and still have the warranty range. So you need something on durability of the batteries itself.

	Just to let you know that these discussions are taking place.
PVT	Where it goes into the policy (regulatory framework) is an issue for after this study and up to the Commission to decide.

11h10 Coffee Break

11h50 Alternative technology neutral policy options (WP2) (should be 11h20)

Grietus Mulder (GM) presented the how to broaden the scope and making the regulation more technology neutral. (see PowerPoint)

Look for all high capacity batteries with internal storage, in this case for EV and ESS. Still same applications and sizes. 2 kWh to 1 MWh at battery system level. The battery application system can be larger but consists normally of several battery systems.

For EVs: only lithium technologies used (broader than Li-ion).

For stationary, there are many chemistries possible and used today.

Went through the technologies and what standards exist today for their performance. Compared these technologies with the policy options suggested in task 7 of the preparatory study, and what is possible with different technologies.

Acronym	Comment/answer
Recharge - PAL	Why new approaches to calculate CO2 footprint E.g. primary energy(GER) and cEEI?
PVT	We kept the two LCA parameters (GER (MJ) and GWP(carbon footprint) to correct each one on a different criteria but agreed it could more simple to apply only one parameter (e.g. carbon footprint)).and it is open for discussion. GER is less influenced by renewables and in an ultimate scenario with all renewable energy generation it can still be used but agreed the regulation proposal is mostly based on carbon footprint information.
Revolta, representing ECOS	Regarding BMS – strongly support standardisation of this information. BMS info should be linked directly with certification for second life use.
GM/PVT	Already considered
SAFT - PdM	Is scope the same? If you read WP2 report, there is quick jump into formulas, but what is the underlying clear logic. State (truly) that other technologies do not perform as well as Li-ion but use a cEEI ratio.
GM	I hoped the logic was clear. The report was made in a systematic approach. The rationale is to look at all chemistries, look at what is covered by standards for performance indicators, then what do batteries do according data sheets, and if they can meet the requirements set in task 7. From that we see that we cannot use the same requirements directly, but some technologies need differentiated requirements. Then look at how to bring it into relation, so need a correction factor (CEEI) which is part of the preparatory study.
SAFT - PdM	So, you use the cEEI to calculate?
GM	This is used only for the warranty part, to come to a suitable length of warranty for each batter chemistry. All the parameters need to be calculated. Look at co2 footprint and if you look beyond CO2 footprint, where all is produced by renewable energy, we can use the cEEI.
GM	Don't need to phase out other chemistries, as long as they can survive under certain restrictions, which we determine using this formula. This is to see if we are favouring only Li-ion, but we see that it is possible to keep other chemistries, while only NiFe could have efficiency problem, and Lead-acid a problem to live up to life cycle requirements.
Recharge - PAL	Where is the consumer in this recommendation?

PVT	Agree that this WP2 is an academic exercise, and this is more to prevent loopholes later on in the regulation, and it could prevent that other chemistries are sold with unverified claims.

12h20 PEF CR, what does it entail for batteries (should be 11h40)

Presented by Michele Galatola (DG GROW - MGa)

Why use Product Environmental Footprint (PEF)? Because it is the method Recommended by the Commission for policy actions like the one currently discusses for sustainable batteries[1], because it leads to results that are more reliable, comparable and verifiable than any other existing life cycle assessment method. These features are essential when implementing LCA into policy making. PEF stricter than ISO standards, which are too flexible. Methods have been road-tested with 27 different sectors in the period 2013-2018 and the method has been reviewed by JRC after the road test phase and it is now ready for regulatory purposes.

Look at including or excluding use phase, which is one of the things we would like inputs on.

Calculation logic: impact = activity data * secondary dataset (which is set in the PEFCR). Can also use company specific data if available.

Some chemistries not covered by the method today. Therefore, we also need info on the processes used to produce the batteries, in order to build the secondary datasets needed for the PEFCR for these chemistries.

Will include a PEF calculator. This will not be a LCA calculator, nor an ecodesign software.

12h25 Example applying the PEF CR to a sodium battery for ESS (should be 12h00)

Presented by Neethi Rajagopalan (VITO). Selected to consider sodium nickel chloride and lithium metal polymer batteries as well as sodium-ion (future system). The example showed here is the sodium-ion. Looked for publicly available data. Excluded use phase. Used Li-ion data as approximation for EOL data.

Acronym	Comment/answer
Umicore – JT	Weak point in PEF for Li-ion is the use of proxies for cathode material. Use as proxy the metal salts, but energy intensive to convert these into active, cathode materials. Should be encouraged to use actual company data, and penalised to use proxies
DG GROW – MG	The use of proxies was the best available at development of PEF, that is why we ask company specific data in the PEFCR. Penalties not introduced, as it might be more difficult for smaller companies to get specific data, than for large companies. So not introduced now but could be introduced later.
Umicore – JT	Asking producer for real data. Problem two-fold: to ensure confidential, make sure at least three manufacturers to average their data. → to get average dataset
DG GROW - MG	Can still protect confidentiality
BME - BS	1- How will you administrate a requirement on PEF, if e.g. you have importer of batteries, or will they get the data, and how will market surveillance authorities (MSAs) get the data for the verification. Need a very robust auditing system 2- With the uncertainty you can expect, if it is too high, isn't it better to keep as an information requirement rather than a minimum requirement 3- Regarding use phase, I would guess you have some standardisation to allow comparison, so you have the same modelled use phase, so would assume that it would be the same for any product, so does not make a difference. Could be left out if production leads to largest part.
DG GROW -	Verification. Yes, 3rd party verification needed. In the proposal the issue of verification will be

[1] Commission Recommandation 179/2013

MG	dealt with, how it should be. We are talking about info requirements, not minimum thresholds on CO2 footprints. Regarding uncertainties it has been reduced to the minimum due to systematic approach (three sources of uncertainties, have standardised secondary datasets and modelling method). Use phase – exactly why we consider excluding it. Everything else I based on modelling you can verify, while use phase you cannot be verified.
CS	The regulation should apply to batteries placed on the market. Scope is for EV and ESS, so tools with portable batteries are outside scope. Also, why we want to keep regulation homogeneous, to ensure that requirements are meaningful.
SAFT - PdM	Mobility part and an energy storage part. So, for EV more or less one technology, if look at ESS many different technologies (even missing flow batteries). It will take time to log all the parts. So, this will be slow.
CS	Carving out scope of regulation: you have a positive scope (those that are included) then a list of exemptions (also a positive list). That is why we want to keep the regulation homogeneous. For us, easier to just have the regulation for Li-ion but would not be fair. So, this will be fair and future-proof to include other chemistries.
NEA - HPS	As said in the beginning the intention is to have an internal market battery regulation, but if you look at PEF, and at production, there are parameters that might not be completely compatible with the WTO. Especially if you look at a total factory and the energy used there this might not comply with the internal market. Is there any idea how to deal with these issues? Or is it possible to have another legal basis, where you can more easily take this into account?
CS	We have mandate to make PEF for entire life cycle. It is for us to fill the gaps, so we believe this is the best regulatory framework. By having a simple declaration of carbon content, there should be no discrimination, and no problem with WTO: If we propose carbon thresholds in the future, this should be made compatible with our WTO obligations..
DG GROW - MG	The issue with WTO has been centre of discussion with lawyers, and it seems that it is feasible to have this sort of legislation even under WTO. If there is double legal basis (internal market and environment) leaves some flexibility.

12h50 Lunch break (should have been 12h20)

13h45 Potential policy for sustainable sourcing (WP4) (supposed to be 13h30)
Presented by Mette Rames.

Acronym	Comment/answer
Solarwatt, BVES - TT	Why use the list of critical raw material? Raw material sources is an issue of the cell manufacturer not of the battery manufacturer. So why do you us the 'CRM' list? Cell is manufactured in e.g. Asia (where these metals are not a problem), and imported to EU, and cells are not a problem to source.
MR	Within CRM there are two things see figure economic importance and sourcing risk. we need to screen all materials and also consider this, as this is a key point for the Commission.
SAFT - PdM	Battery makers don't buy a raw materials they buy components (cells). In his opinion once a CRM is embedded in a cell it is not more an issue anymore within EU.
NEA - HPS	recommended, the background is not interesting and don't focus on why CRM and also look to other than CRM.
MR	We look to a list of other parameters than CRM.
SAFT - PdM	In France: Obligation of due diligence on the supply chain (after 2014 when a textile plant in

	Bangladesh had a fire) – this is not in the mining step, but later. Where is this risk described? Recommended to look to a similar law in French related to worker conditions and fabrics (cloths). It also addresses the issue of the beginning of the cycle which is outside EU..
Northvolt - EW	NV would like to add both "natural graphite" and "manganese" in the list of shortlisted materials, with an emphasis on graphite
GEA-GTE	Also add graphite Chap.3: quite some issues missing. Chap 5: some standards are missing, especially IRMA
Recharge – PAL	ILO standard on human rights, and IRMA framework is missing from the list.
Umicore – JT	Is the due diligence Voluntary or not? Conflict materials are not applicable for end products, therefore creating a loophole.
MR	The due diligence can be voluntary or mandatory – we are working with both policy options. The requirements will be for the batteries put on the market, and not for the raw materials sources (As the Conflict minerals regulation), so the same loophole does not exist.
SAFT - PdM	Only risks about mining in the report. Hope this will not end with symbolic enforcement and ask to pay attention to this when considering third party audits, is there a sample needed and which? Both up and downstream risks should be in the scope, to consider all aspects in the value chain.
MR	The due diligence covers the entire supply chain. Not just the mining. But that is where we so far in our work has found most risks. The next step is to detail the supply chain for each of the chosen metals. Then we will add risks in other steps. But the proposed policy option covers the entire supply chain.
ECAM	Copper - please consider also copper that is mined together with Cobalt.
Transport & Environment - LM	First a small point on the definition: I think we can include a couple of points like fair remuneration of the workers and benefit sharing of the mine activity, but also on the local land right issues like land grabbing. Secondly, we support making the OECD Due diligence guidelines mandatory with support from standards on environmental and occupational health issues. And on the OECD guidelines I had a couple of comments. First of all on the Industry certification schemes, which are often not certification but only self-reporting schemes and are not audited, and they should not be serve as compliance for future regulation. Secondly the 3rd party audits are very important here, especially on how to address the risks, and there should be conformity assessment procedures performed by conformity assessment bodies, like notified bodies for type approval, like in other regulations. Important that there is good assessment of the third party bodies that can make the audit. The last point is on the scope: important that it address both upstream and downstream, i.e. all the steps in the value chain and particularly for refiners. + maybe another on the scope of the OECD DDG, in particular applying the requirements at all levels upstream, middle stream and downstream, in particular for refiners
MRA	Noted regarding notified bodies, and for the scope, that is the idea, that because the rules apply to the battery, disregarding where it was produced, you have to account also for all the content material of the battery, and the supply chain routes it has taken, thus covering the entire supply chain.
GEA-GTE	Our opinion: all three options have to be combined. In slides you ask about what is the cost, but more important to ask who will pay the costs?
MR	Indeed, we need to know the cost for each implicated actor (end-user, manufacturer etc.), but we still need to know what the cost is.
JV	confirmed we need to quantify to comply with the Impact Assessment EU rules
NEA - HPS	Has any other country used OECD guidelines in regulation as we plan to do here?
CS	it is implemented maybe already in China and the US

Blue Solutions - DC	How is recycling accounted for in this task? How to ensure recycling of batteries and keep materials inside EU? How to incentivize recycling with voluntary guidelines?
MR	It is not part of this task on sustainable sourcing, it is part of other tasks in the preparatory study (e.g. requirements on construction and design of battery). Regarding recycled materials, different due diligence rules could apply to them.
CS	if remember well, recycled metals are excluded in the Conflict minerals regulation. Same could be done here.
SAFT - PdM	Once a battery followed all the process of due diligence: how will this help consumers choose batteries, and how do we make it bring something for us?
CS	It brings reputation. But how to share the auditing information?
MR	Yes, you need to disclose DDG results for public. Could be in annual reports as in the French system. This is integrated part of OECD that the reports should be disclosed.
CS	It needs to agree on what amount of info needs to be disclosed (annual reports, etc.)
Umicore - JT	Initiative launched by the Battery Alliance with a Battery Passport: access to data, CSR... refers to the initiative of global battery alliance with a battery passport that include that information.
SAFT - PdM	French law requirement companies to identify the hot spots, to analyse them and report in annual report to shareholders.
MR	This is in line with the OECD guidelines.
Eramet	Not convinced that OECD guideline or ISO14001 can guarantee good environmental production conditions. For example, for nickel: additional capacity will come mostly from Asia, and some use or plan to use Deep sea deposition of huge quantities of mining waste with large environmental impact. Some hard requirements are necessary to ban the most detrimental mining methods for environment, and hence protect the reputation of the whole battery supply chain. Not using these methods result in very significant additional costs : a level playing field must be guaranteed for responsible mining companies. A policy package is required with all three policy options.
MR	Yes, ban of certain practices could be a hard requirement.
Umicore - JT	Distinction must be made between minimum criteria set by law and increased criteria, carried by companies. Agree that some issues are a yes/no question, and cannot allow some degree of a practice, for example for child labour.
MR	concluded, the EC needs to take care of these options mentioned.

14h30 Coffee break

14h45 Potential scope extension to light mobility applications (WP1)

Presented by Konstantin Krauss and Cornelius Moll. Focus on possible extension of scope of the preparatory study to light mobility applications. Bicycles (pedelec), electric scooter (standing up), mopeds and motorcycles. To what extent the policy options from task 7 of the preparatory study are applicable to these applications. Focus on Li-ion batteries.

Acronym	Comment/answer
ACEM - TV	1 – definition of vehicles: indeed, only saw this study very recently. So, can you explain how you came to the scope of light electric vehicles? For example, some are missing such as mono-wheels, type approved electric vehicles.
CM	The product groups were defined by going through European standards and regulations.

	Mono-wheels were not looked into, as they are not that big, but will try to find some data. For e-scooters a standard is on the way, but so far, the definition was based on national member state (MS) regulations and manufacturer descriptions.
KK	Also, the overall scope was determined by EU Com, who requested looking into these specific products. Also, why mono-wheels were not included.
NEA - HPS	What is the synergy between EV batteries and the light mobility batteries? Are they completely separate battery markets, or are some components maybe interchangeable between the two? Might also be important from a cost perspective, but also for regulatory loopholes, if certain types of batteries are used where it was not foreseen.
KK	The cell used for these light mobile applications are cylindric, and more similar to those used in e.g. consumer power tools, than to those in EVs, which are prismatic cells. But aside from that, the chemistries are very similar. Whether they can replace each other is not clear.
ECOS - MZ	Welcome the new analysis and inclusion of these applications, especially due to the capacity of pedelecs to be similar to ESS. We asked several times during the study whether busses will be included, which becomes very common. How to implement in regulation?
KK	Busses were part of the preparatory study, and it was chosen not to consider them, and not part of this work package, which focusses on light mobility
CS	Preliminary scope of regulation is electromobility, so EVs and Trucks. Question on busses and ESS not closed and can change. The reason for this task is to hear arguments for and against including light mobility applications.
EuRIC - LO	Welcome the new analysis and inclusion of these applications, especially due to the capacity of pedelecs to be similar to ESS. We asked several times during the study whether busses will be included, which becomes very common.
SAFT - PdM	There is a significant difference in the industry of light mobility applications and the car manufacturers. Technically they might be similar, but the players behind the supply chain are very different. Much smaller OEMs, that can easily change suppliers. Shorter product life. There will not be the same established relationship as between EV and battery manufacturers. Player in the middle of the stream much more important for LEV than for EV.
Northvolt – EW	Producer of cells for both EV and light mobility and do recycling, so we welcome that the regulation cover as large a share of the market as possible. Many LEV batteries are below the 2kWh threshold. Do you see how this affects the scope of 2 kWh-1MWh from the original study? And how was this scope chosen in the first place? We also see large scale applications that could potentially be larger than 1000 kWh. Would you also consider to raise the limit above 1000 kWh?
KK	This has not been considered yet. But the lower threshold is probably a bigger issue than the upper limit, as larger batteries often consist of several interconnected battery systems.
AD	The scope was based on analysis of the market and the applications included.
NEA - HPS	Regarding busses and more general, you can only exempt an application, of you have a neutral and clear technical description of batteries used specifically for that application. There is (in technology) a large overlap between busses and other EV's, so they cannot clearly be exempted. Also need to look at the range of applications to be as wide as possible. Even if they are not considered as a base case, they will be in final regulation to avoid loophole. Warranty: light mobility is a challenge for the battery makers of these, so that the product is not thrown away as soon as battery is dead but changed instead.
AD	Busses taken out due to number of base cases and being a smaller market. It is still possible to have them in the regulation.
GEA - GTE	Would like proposal from commission on a horizontal regulation on batteries for all types of consumer products.
AD	Actually, we talked about this, but even though unit number is huge, the capacity is small.

ACEM - TV	Few comments on market expectation. On mopeds, L1B segment also includes high speed powered cycles (up to 45 km/h), are they also included in the E mopeds?
KK	We used ACEM CIACEM database, so it depends whether they are included there.
ACEM - TV	Asking because some member states separate these in the national regulations, but officially they are in the same category (L1B). Further, the forecast is quite optimistic, unfortunately, there is already a decline in moped market for several reasons, because a little higher price gives an L3 vehicle (bigger scooter, above 45 km/h), so I expect the same trend for electric. On motorcycle market, assuming status quo in 2030, is too pessimistic, hope that especially smaller motorcycles will be higher.
KK	For future urban mobility, assumed that they would play a bigger role. But would like to go over the assumptions after.
SAFT - PdM	Will slides be available?
AD	Yes, after the meeting they will be available
CS	Would like to address that there is a risk to cover too many different applications within one regulation in one step, so might be better to expand scope gradually.

15h45 AOB, conclusion and next steps

- PVT: the deadline for comments are on the website https://ecodesignbatteries.eu/: 19th November for all discussion notes. Please use the form but we also welcome position papers. We will make descriptions of the position papers.

Acronym	Comment/answer
PVT	It is important to keep the very short timeline into account, do not hesitate to contact consultants directly. Will include contact details in the end of each presentation.
CS	Regarding the next steps, before adoption by the commission of an ordinary Ecodesign Regulation, there is a consultation forum where requirements are discussed. However, unlikely to be ecodesign, and may go directly into the ordinary legislative process. In this case, we need to mimic the CF industry hearing. Not sure how it will be done, but could be a day in Q1 2020, to give the industry a last chance to validate ideas and requirements.
ECOS – MZ	Regarding comments, can we sent to general address, or should we send separate address?
PVT	You can put them in CC, but if you can contact responsible directly, it will be more efficient.
JV	Regarding comments, be as specific and clear as possible, to be able to take them into account for the revised report.
PVT	Deadline is November 19th, in 2 weeks. Short time reflects also the short time for the study team
Northvolt - EW	The comments are they for the WPs or also for task 7?
PVT	The contract is finished, and task 7 will not be changed anymore. So, we will not be able to react to the comments but please sent them directly to the policy officer with us in cc

15h50 End of meeting

Annex

The PowerPoint presentation of the meeting are available at the project website: https://ecodesignbatteries.eu/documents